WHAT IS CLAIMED IS:

1. A method for developing a temperature compensated voltage supply comprising the steps of:

generating a first base voltage (VTC1) and a second base voltage (VTC2), wherein the first base voltage (VTC1) and the second base voltage (VTC2) have unique temperature coefficients (TC1, TC2);

generating an output voltage (Vnew) by summing the first base voltage (VTC1) and the second base voltage (VTC2) assigned with different weights (a,b), such that the new output voltage Vnew has a new temperature coefficient TCnew; and this output voltage (Vnew) satisfies the expression:

$$Vnew = a \times VTC2 + b \times VTC1,$$

where the above two weight values (a,b) shall satisfy the conditions: $a+b=1$, and $0 \leq |a|, 1 \geq |b|$.

2. The method for developing a temperature compensated voltage supply as claimed in claim 1, wherein the new temperature coefficient (TC new) satisfies the expression :

$$TCnew = TC1 + a \times (TC2 - TC1).$$

3. The method for developing a temperature compensated voltage supply as claimed in claim 1, wherein the first base voltage (VTC1) and the second base voltage (VTC2) are equal when the temperature is T_0.

4. The method for developing a temperature compensated voltage supply as claimed in claim 2, wherein the first base voltage (VTC1) and the second base voltage (VTC2) are equal when the temperature is T_0.

5. The method for developing a temperature compensated voltage supply

as claimed in claim 4, wherein the weighted value (a) can be negative.

6. The method for developing a temperature compensated voltage supply as claimed in claim 5, wherein the weighted value (a) can be negative.

7. A circuit for developing a temperature compensated voltage supply, comprising:

a base voltage generator for generating two base voltages (VTC1, VTC2) having different temperature coefficients (T1,T2), whereby the base voltages (VTC1, VTC2) are equal when the temperature is equal to the reference temperature, a zero value;

an output voltage generator for generating output voltage (Vnew) based on different weighted values (a, b) assigned to the two base voltages (VTC1, VTC2), wherein

the output voltage generator is connected to an output of the base voltage generator, and the two weighted values (a, b) satisfy the conditions: $a+b=1$, and $0 \leq |a|, 1 \geq b|$; and

the temperature coefficient (TCnew) of the actual output voltage (Vnew) is determined by the temperature coefficients (T1,T2) on the two base voltages (VTC1, VTC2), satisfying the expression

$$TCnew = TC1+a\times(TC2-TC1).$$

8. The circuit for developing a temperature compensated voltage supply as claimed in claim 7, wherein the base voltage generator in the temperature compensated voltage supply circuit further includes:

a current mirror (10) having an output side connected by a resistor (R) and a diode (D) connected in series, and an input side has a diode (D_O), wherein a

diode contact area of the diode (D) on the output side is N times greater than that of the diode (D_O) on the input side;

a first output circuit (20) having an input connected in parallel to an output of the current mirror (10), and in series to a resistor (R1) and a diode (D1), wherein one end of the resistor (R1) becomes an output node for the first base voltage (VTC0); and

a second output circuit (30) having the input connected in parallel to the output of the current mirror (10), and connected in series to a resistor (R2), wherein one end of the resistor (R2) becomes an output node for the second output voltage (VTC).

9. The circuit for developing a temperature compensated voltage supply as claimed in claim 8, wherein the output voltage generator is formed by two resistors connected in series, and two ends are respectively connected to the two base voltages (VTC1, VTC2), and the junction where these two resistors are connected forms an output node for an output voltage (Vnew).

10. The circuit for developing a temperature compensated voltage supply as claimed in claim 9, wherein the weighted value (a) depends on the ratio between the two resistors.

11. The circuit for developing a temperature compensated voltage supply as claimed in claim 8, wherein the output voltage generator further includes four switches (S1, S3, S21, and S22) and three capacitors (CI~C3), wherein

two ends of the first capacitor (C1) through the switches (S1, S21) are connected to an output node for the first base voltage (VTC1), and one end of the first capacitor (CI) through the switch (S22) is connected to an output node for a

second base voltage (VTC2);

the second and third capacitors (C2, C3) are connected in parallel to the first capacitor (C1), with a switch (S3) mounted between the second and third capacitors (C2, C3) for switching capacitors, where one end of the third capacitor (C3) becomes an output node for the output voltage (Vnew); and

the four switches (S1, S3, S21, and S22) are controlled by three non-overlapping clock signals (P1)~(P3).

12. The circuit for developing a temperature compensated voltage supply as claimed in claim 11, wherein the clock signals for the four switches (S1, S3, S21, and S22) satisfy the following conditions:

S1=P1

S3=P3

S21=P1

S22=P2.

13. The circuit for developing a temperature compensated voltage supply as claimed in claim 111, wherein the clock signals for the four switches (S1, S3, S21, and S22) satisfy the following conditions:

S1=P1

S3=P3

S21=P2

S22=P1.